CHAPTER II

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

II DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

II.A. INTRODUCTION

This chapter describes alternatives that have been investigated to satisfy the federal purpose and need for the project. The proposed action, referred to as the Settlement Alternative, and three non-settlement alternatives are described in detail. A No Action Alternative is also described. This chapter briefly discusses alternatives that were considered but eliminated from further evaluation and identifies criteria that were used in developing the alternatives.

II.B. CRITERIA USED IN FORMULATING ALTERNATIVES

As noted in Chapter I, the primary purpose and need for this action is to allocate CAP water pursuant to the CRBPA, in such a manner that would facilitate the resolution of outstanding Indian water rights claims in the State of Arizona. It is anticipated that at the conclusion of the NEPA process, the Secretary would prepare a ROD and offer and execute contracts for water service consistent with that decision.

Three major considerations taken into account in developing the range of alternatives were as follows:

- Restrictions or conditions that apply to any CAP water made available for reallocation as a result of authorizing legislation and/or water settlement agreements. For example, federal law requires that use of CAP water occur within the lower Colorado River basin, and several relevant Indian water rights settlements specify reassignments of allocations and leases that are to be implemented.

- Amounts of water believed to be sufficient to facilitate resolution of water rights claims of Tribes being "actively" negotiated. These Tribes include GRIC, TON, SC Apache Tribe, Navajo Nation and Hopi Tribe (Navajo/Hopi).

- Water needs of the non-Indian sectors served by the CAP.

II.C. ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

II.C.1. CAP water allocated to the Tonto Apache and Yavapai Apache Tribes

Non-settlement alternatives were considered throughout the scoping process that allocated water made available for federal purposes by the Fort McDowell Indian Community (FMIC) Water Settlement Act of 1990 (PL 101-628). After additional review, it was determined this water, formerly NIA priority water relinquished by the Harquahala Valley Irrigation District (HVID), could be used only in the final settlement of Indian water rights claims on the Salt and Verde River watershed. Consideration was then given to identifying the water as being “designated” for use in settling these Tribes’ claims. Reclamation, however, decided to remain silent on the disposition of the water

for purposes of preparing the draft EIS, since negotiations regarding settlement of water rights claims for these entities are not sufficiently developed at the present time. Nonetheless, the water remains available for allocation consistent with the Congressional directive in PL 101-628.

II.C.2. CAP water allocated to other Indian Tribes

Non-settlement alternatives were considered that allocated CAP water to Indian Tribes in addition to those evaluated in this EIS. For example, during the public scoping process, the Havasupai and Hualapai Tribes suggested including alternatives that provided allocations for their respective Tribes or that settled their water rights claims. Reclamation considered whether an alternative should be developed that provided CAP water allocations to these Tribes but decided not to do so because negotiations regarding settlement of water rights claims for these entities are not sufficiently developed at the present time. This decision does not, however, preclude future CAP allocations to Tribes not included as part of this round of CAP allocations.

II.C.3. CAP water allocated for environmental purposes on the Colorado River mainstem

Non-settlement alternatives were considered that would allocate CAP water for environmental purposes on the Colorado River mainstem or for use in the Colorado River Delta in Mexico. After review and consideration of the scoping comments, Reclamation concluded that the inclusion of alternatives that would result in use of CAP water along the Colorado River mainstem would not be consistent with the stated purpose and need of this proposed federal action. Reclamation does, however, recognize that allocation and use of CAP water for environmentally beneficial purposes are consistent with CAP's authorization. Such an approach has been considered at various times in the recent past. For example, the 1993 Governor's Task Force Report specifically addressed recommendations for allocating CAP water for environmental purposes within the CAP service area (ADWR 1993). While not identified as a specific element of any of the action alternatives included in the draft EIS, use of CAP water for environmental purposes within Arizona is not precluded, and is contemplated at least to some degree in two of the action alternatives (see discussions under Settlement Alternative and Non-Settlement Alternative 3B). Any allocation for such use would require specific federal action which, in turn, would be accompanied by the appropriate environmental compliance documentation.

II.C.4. Pool of uncontracted water in non-settlement alternatives dedicated to State purposes

Non-settlement alternatives were considered that would allocate NIA priority water for non-Indian purposes, which would be distributed to those users through a process to be determined later. A portion of the water included in this pool is currently uncontracted NIA priority water that was subject to the 1992 NIA reallocation process, described in Chapter I. After consideration of scoping comments and further analysis, it was determined that, absent settlement, the SRPMIC settlement dictated contracts for this water would have to first be offered to the NIA sector pursuant to the 1992 Final Reallocation Decision regarding uncontracted NIA priority CAP water (57 FR 4470).

II.D. ALTERNATIVES EVALUATED IN THE EIS

This section describes the four action alternative allocations of CAP water that are considered in detail and the No Action Alternative. To better understand the effect of each allocation alternative, it is necessary to provide some background regarding the water supply that is being allocated. The background information which follows includes how various users' shares of the pool are calculated during a normal flow year and during years when there are surpluses or shortages of Colorado River water. For a more detailed explanation, see Appendix A.

For purposes of describing the environmental consequences of the proposed action and the alternatives, this document assumes the total amount of CAP water available in a normal year[11], for diversion and use after deducting estimated system losses, is 1,415,000 afa[12]. Reclamation's longstanding analysis shows that in a normal year, this amount of water is available for delivery via the CAP system.

As noted in Chapter I, the NIA users' allocations are expressed as percentages of the CAP water supply that remains after the Indian and M&I sectors' allocations have been ordered and delivered. Solely for purposes of describing and comparing the alternatives in this document, the NIA allocations have been converted from percentages to fixed volumes for all the alternatives. The calculation of fixed volume amounts corresponding to percentages of the available CAP water supply may vary depending upon the order in which specific calculations, reductions and conversions are made. For purposes of this draft EIS, the total amount currently available for NIA use has been estimated to be 341,098 afa (1,415,000 afa less the sum of 620,678[13] plus 453,224 afa). For a detailed explanation of the method by which these conversions were made, see Appendix B. Also, using the methodology presented in Appendix B, each NIA subcontractor's CAP water allocation was converted to a fixed annual volume.

Use of specific numbers in the EIS is not meant to imply a degree of precision that does not exist, and it should be noted the various amounts of water attributed to the NIA sector are estimates for purposes of describing alternative allocation scenarios, with one exception--NIA priority water previously allocated and contracted to HVID. Pursuant to the FMIC Water Settlement Act of 1990 (PL 101-628), the HVID water was converted from an NIA percentage allocation to a fixed volume of 33,251 afa considered to be Indian priority. Of this amount, 13,933 afa were allocated and contracted to FMIC. The remaining "HVID water" (19,318 afa) is being reserved for Federal use in the settlement of Indian water rights claims to the Salt and Verde River watershed.

For the Settlement Alternative, all allocations of NIA-priority water would be converted to fixed volumes for ease of administration. Existing contracts based upon percentages would be

[11] The Secretary, in his capacity as Water Master for the Colorado River, makes an annual determination of whether Colorado River water supplies are "normal," "surplus," or "shortage," based upon water storage levels and other factors. See Appendix A for details.

[12] Technically, some of the water included in this 1,415,000 afa CAP supply is higher priority Colorado River water that has been allocated to Indian Tribes also holding CAP water contracts. For example, the Ak-Chin Indian Community is entitled to divert 50,000 afa of Colorado River water from the Yuma Mesa Division (YMD) through the CAP. In order to simplify the discussion in the EIS, it is all referred to as "CAP water supply" although, in fact, a portion of the supply maintains a higher delivery priority than the actual CAP water supply.

[13] This 620,678 af consists of the 638,823 af of M&I priority water minus 18,145 af of M&I priority water currently allocated to the City of Globe and PD. The 18,145 af are considered to have been transferred to the SC Apache Tribe pursuant to the SC Apache Tribe Water Settlement Act of 1992 (PL 102-575) (see Appendix B).

voluntarily relinquished, and a new methodology for distribution would be established. In the absence of settlement, it is contemplated that contracts and subcontracts for NIA priority water would be offered on a percentage basis; however, as mentioned above, in this draft EIS, the NIA allocations for non-settlement alternatives have also been converted to volumes based upon a normal year CAP delivery of 1,415,000 afa (consistent with the volumes developed in the Settlement Alternative), for the purposes of providing a consistent method for describing and comparing all the alternatives (see Appendix B).

The treatment of NIA priority water during conditions when there is surplus water on the Colorado River (called "surplus conditions") under the Settlement Alternative is the subject of ongoing settlement negotiations. For all alternatives except the Settlement Alternative, the method by which the NIA sector would receive surplus Colorado River water would be consistent with what is currently stated in the NIA subcontracts, regardless of what sector may eventually receive the NIA priority water[14].

CAP water that is either not under contract or is under contract but not ordered is referred to as "excess water," or the "excess water pool." Under current practice, CAWCD sells this CAP water through excess water contracts for a term of not more than one year[15]. Excess water, however, should not be confused with surplus water, which is water available on the Colorado River system when the Secretary declares surplus conditions and more than 7.5 mafa are available for users from Lower Basin States. During declared surplus conditions, the Lower Basin may consumptively use more than the standard 7.5 mafa. Surplus water may be used with fewer restrictions and by more entities than CAP agricultural water.

A shortage year is one in which the Secretary has declared that the available Colorado River water supply is insufficient to meet normal contract deliveries. If the Secretary declares a shortage, a schedule of reduced deliveries would be implemented. For purposes of this draft EIS, a shortage is defined as diversion of 1,000,000 afa and, after system losses, delivery of 925,000 afa through the CAP system.

As discussed briefly in Chapter I, CAP water is assigned a priority of Indian, M&I, or NIA. NIA priority water is the lowest priority and is reduced to zero prior to any reductions to Indian or M&I priority water during shortage. For the 50-year study period of the draft EIS Reclamation studies show that an average rate of shortage occurrence is approximately 17 percent, with a range of zero to 44 percent. Beyond the 50-year study period in 2055, Reclamation studies predict the probability of shortage to increase to approximately 50 to 55 percent and to continue at that level thereafter.

Each alternative considered in detail in the draft EIS is summarized below. Each summary includes a listing of the major actions that would be taken under that alternative, followed by a description of the conditions that are expected to exist/occur within each of the three water user sectors (M&I, NIA, and Indian). Additional actions that have been proposed independent of the proposed repayment settlement or any of the Tribal water rights settlement negotiations, but would affect

[14] The original percentage system included a mechanism whereby NIA subcontractors would schedule and take delivery of surplus Colorado River water, when available. When converting to a fixed allocation of 1,415,000 af under the Settlement Alternative, it is currently contemplated the CAP portion of any Colorado River surplus water would not be allocated to any specific water user, but would remain in the excess pool.

[15] Appendix A contains a detailed description of the assumed distribution of excess water, for purposes of this draft EIS.

CAP allocations and be implemented as part of any of the action alternatives, are included. These are identified in the alternative descriptions where appropriate.

For the Indian sector, these descriptions include a brief discussion of potential purposes the Tribes or communities might choose for using the CAP water that would be received through any of the action alternatives. These discussions are not intended to address quantification of water rights. They are intended only to provide examples of the types of uses for which these Tribes and communities could use the allocated water, in order to describe anticipated impacts in this document[16]. Each Tribe or community could subsequently decide to use its water in a different manner than that described in this document.

Nine entities are evaluated in the draft EIS. They include entities which have a letter agreement (Central Arizona Irrigation and Drainage District (CAIDD), Maricopa-Stanfield Irrigation & Drainage District (MSIDD), Chandler Heights Citrus Irrigation District (CHCID), Queen Creek Irrigation District (QCID), San Tan Irrigation District (STID), Tonopah Irrigation District (TID)), and entities which would be offered a CAP allocation under Non-Settlement Alternative 3; (MSIDD, CAIDD, New Magma Irrigation and Drainage District (NMIDD), CHCID, San Carlos Irrigation and Drainage District (SCIDD), and Roosevelt Irrigation District (RID)).

II.D.1. Settlement Alternative (Proposed Action)

The Settlement Alternative, referred to as the proposed action during the scoping process, would result in the allocation of CAP water consistent with both the settlement stipulation between the United States and CAWCD, and ongoing negotiations among the United States, the CAWCD, GRIC, the State of Arizona, and other affected parties, including other Indian Tribes. As such, it is important to remember that specific details of this alternative may evolve while the NEPA process is still in progress. Nonetheless, sufficient information is available regarding this alternative to adequately describe the environmental consequences that would result from its implementation. In the event a final settlement contains modifications that are different from those analyzed in this process, Reclamation will evaluate them to determine what additional NEPA compliance is required prior to implementation.

Under the Settlement Alternative, defined blocks of CAP water would be voluntarily relinquished by some users and assigned to other users and / or reserved for future uses, as follows:

- A total of 65,647 afa of currently unallocated M&I priority water would be allocated and contracted to M&I entities consistent with State recommendations.

- A total of 17,000 afa of M&I priority water currently contracted to ASARCO would be voluntarily transferred to GRIC pursuant to an agreement between the two parties, and would be put under contract to GRIC.

- A total of 37,918 afa of CAP water currently held by the Secretary, as a result of the Roosevelt Water Conservation District (RWCD) and HVID CAP relinquishments, would be

[16] For a more detailed explanation regarding how these plans were developed, see the introduction to Appendix L, especially the introduction to the Indian Sector.

used to facilitate Indian water rights claims (36,400 afa would be allocated and contracted to GRIC; the remaining 1,518 afa would continue to be held for use in settling Indian water rights claims in the Salt and Verde River watershed).

- All allocations of NIA-priority water would be converted to fixed volumes based upon a total CAP water supply of 1,415,000 afa. It is assumed that CAP water allocated to NIA districts would be voluntarily relinquished (estimated to affect a maximum of 295,263 afa). To facilitate this relinquishment, some degree of federal debt relief and RRA relief would be provided for NIA users. It is further assumed that, consistent with past and current practice, CAWCD would continue to make NIA priority water available during the 2001 to 2030 period. Assuming the maximum amount would be relinquished, the following is envisioned to occur:

  - 102,000 afa would be reallocated to GRIC as part of a water rights settlement agreement; and 28,200 afa would be allocated to TON to satisfy federal obligations under SAWRSA.

  - 69,800 afa would be reserved for federal use, primarily to facilitate future Indian water rights settlements. (Current negotiations indicate this amount would be reduced by 2,500 afa; the final EIS will reflect the most current agreed upon amount.) Although allocations to Tribes would be made when appropriate, for purposes of identifying environmental consequences in this EIS, it is assumed this block of water would be made available as excess water for the remainder of the 50-year study period, continuing to be used by the NIA sector, and for groundwater recharge or other uses. This assumption is consistent with project operations since 1993 and represents a continuation of the ongoing administration and operation of the project by CAWCD.

  - Up to 95,263 afa would be distributed for M&I and/or NIA sector use by the State of Arizona, through a process to be established at a future date. For the purpose of the draft EIS, this water is treated as excess water during the period of analysis.

- The manner in which shortages are allocated within the CAP would be agreed upon as part of the Settlement Alternative. The modified schedule would operate such that when CAP water supply is less than the total Indian water plus the total M&I water, both M&I and Indian CAP water users would begin to take shortages based on the proportions contemplated (approximately 64 percent and 36 percent, respectively) in the 1980 and 1983 FR notice. The agreed-to schedule resolves differing interpretations of the 1980 and 1983 FR notices. NIA priority water is of lesser priority than Indian priority water or M&I priority water and would maintain its original priority similar to existing CAP operation schedules. Water that would be voluntarily relinquished and assigned to different user sectors would retain its original NIA priority. It should be noted that higher priority Colorado River water delivered by CAP would continue to retain its priority under the Settlement Alternative.

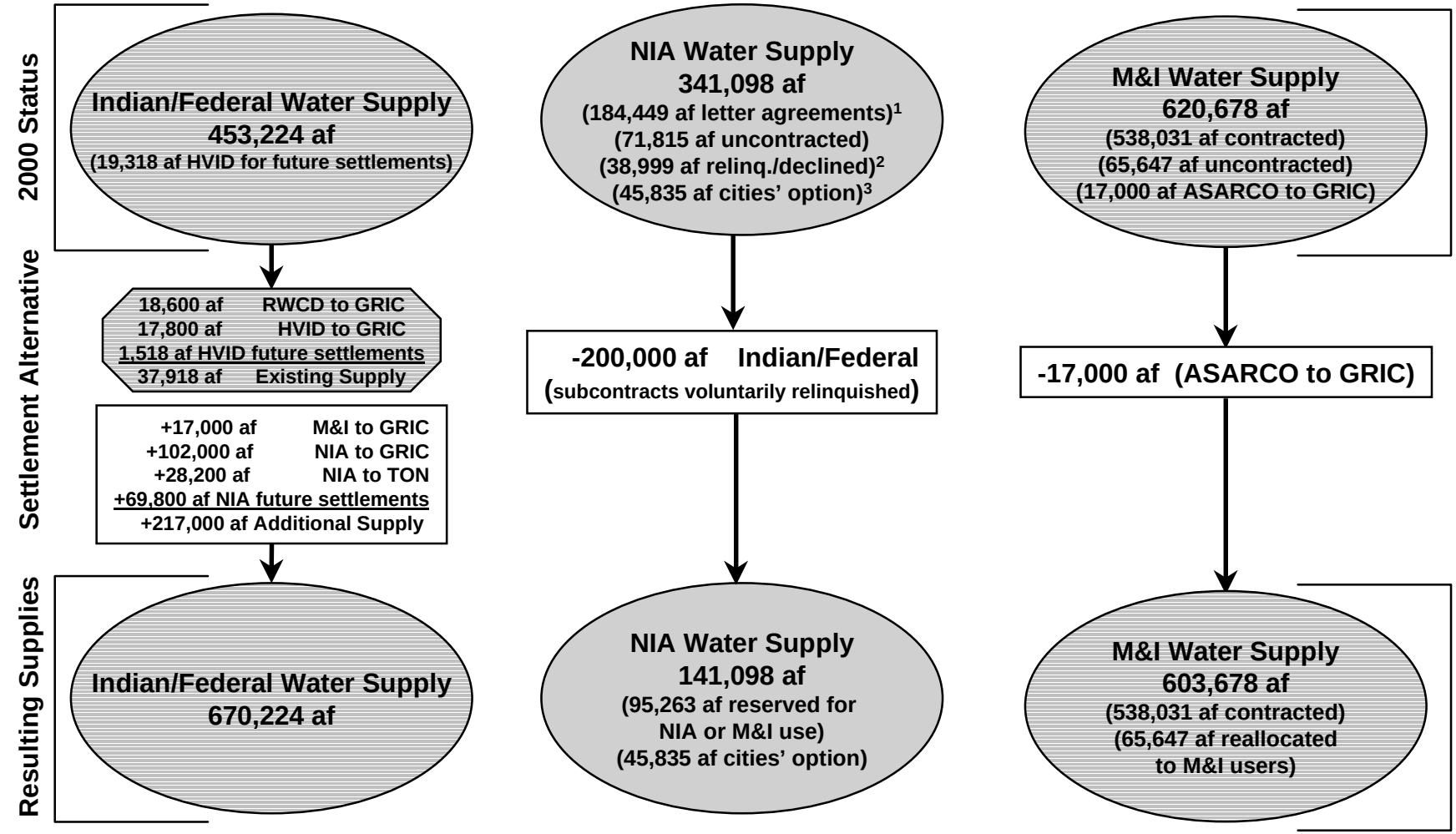
Figure II-1 summarizes the distribution of CAP water among the three water sectors that would occur under this alternative.

Prepared for:

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

June 2000

FIGURE II-1
CAP Allocation Draft EIS
SETTLEMENT ALTERNATIVE
Distribution of CAP Water Supplies



[1]Six irrigation districts (Central Arizona IDD, Maricopa-Stanfield IDD, Queen Creek ID, Chandler Heights Citrus ID, San Tan ID, and Tonopah ID) are considered to have relinquished their allotments subject to SOI consent.

[2]NMIDD is considered to have relinquished its 1983 allocation. FICO, MVWCD, and ASLD are considered to have declined their rights to the 1992 NIA reallocation.

[3]Pursuant to 1993 HIDD Agreement.

II.D.1.a. M&I Sector

Under the Settlement Alternative, all water currently allocated to the M&I sector would remain in this sector, except for 17,000 afa that would be transferred from ASARCO to GRIC and potentially leased back to ASARCO (an arrangement already proposed and agreed to by the two parties). The 65,647 afa of currently unallocated M&I priority water would be allocated to M&I entities consistent with the recommendations received from the State in a letter to the Secretary dated December 2, 1999, and reaffirmed in a subsequent letter dated January 20, 2000 (see Appendix N). Water service subcontracts would be executed with those entities. Table II-1, at the end of this chapter, contains a summary of the allocations to the M&I entities as proposed under this alternative.

II.D.1.b. NIA Sector

As indicated above, it is assumed that under the Settlement Alternative, NIA users would voluntarily relinquish their CAP water allocations. It is unclear at this point in the preparation of the draft EIS, whether or not all NIA subcontracted water would be voluntarily relinquished; however, a vast majority of the NIA subcontracts are expected to be terminated through this process. Nevertheless, it is anticipated NIA users would continue to use excess water for at least the next 30 years. This is based upon the amount of water projected to be available as excess water during this period and CAWCD's stated goal of providing the NIA sector with affordably-priced water for 30 years. In addition, NIA entities that currently owe the Federal government for amounts borrowed to construct CAP water delivery facilities could receive some degree of debt relief. RRA requirements could also be limited or suspended for certain CAP NIA users. Depending upon ultimate legislative modifications, RRA relief could involve a revision to the restriction on the number of acres that could be farmed with CAP water in addition to elimination of groundwater commingling fees[17].

II.D.1.c. Indian Sector

Under the Settlement Alternative, two Tribes, GRIC and TON, would receive additional CAP water allocations. In addition to the CAP water allocations to GRIC and TON, there would also be a total of 69,800 afa available to be allocated by the Secretary for use in facilitating resolution of Indian water rights claims. There would also be 1,518 afa that would remain reserved for use in settling Indian water rights claims to the Salt and Verde River watershed. This water was previously allocated for use by the HVID, converted to Indian priority water, and made available through the FMIC Water Rights Settlement Act of 1990 (PL 101-628). Table II-2, at the end of this section, contains a summary of the Indian allocations proposed under this alternative.

Hypothetical non-binding plans for the Tribes' uses of this water are briefly described below.

[17] It is reasonably foreseeable to include debt relief and RRA modification in the analysis, based on the stated positions of the NIA sector, ADWR, and other public statements made, that indicate these considerations must be part of an overall restructuring of the CAP system.

II.D.1.c.(1) GRIC

Under the Settlement Alternative, GRIC would receive an additional 155,400 afa of CAP water, which would contribute to satisfying GRIC's total water budget of 653,500 afa[18]. GRIC's Gila River water rights claims would be settled.

Based upon current water rights settlement negotiations, it is anticipated that 41,000 afa of Indian priority water to be received as part of the Settlement Alternative would be leased by GRIC to seven municipalities within Maricopa County. The lease term would be for 100 years. In addition, it is anticipated GRIC would exchange 32,500 afa of CAP water with the cities of Mesa and Chandler for 40,600 afa of reclaimed water. This would result in a net addition of 8,100 afa of water to GRIC's total water budget. The specific plans for transporting and using this reclaimed water are unknown at this time.

Based upon previous agreements, it is anticipated that 17,000 afa of the 155,400 af of CAP water would be available to be leased to ASARCO and 12,000 afa might possibly be leased to PD. The details of the lease arrangements and specific uses of the leased water are not known at this time.

For purposes of evaluating the environmental consequences in the draft EIS, it is anticipated that all CAP water not leased or exchanged would be used for agricultural purposes. GRIC has developed a master agricultural development plan, called the Pima-Maricopa Irrigation Project (PMIP), which consists of rehabilitating existing agricultural lands and developing new lands for agriculture within the Reservation, up to a maximum of 146,330 acres. The additional net 93,500 afa of CAP water would support continued agricultural use/development of about 20,800 acres, consistent with the PMIP, for which a programmatic EIS was prepared (Reclamation 1997) and a ROD issued (Reclamation 1998). These potential uses are described in more detail in Appendix L.

II.D.1.c.(2) TON

Among its other provisions, the SAWRSA directed the Secretary to secure and deliver 28,200 afa of water to TON as a component of settlement of water rights claims of the TON. This water was identified to be of a quality suitable for agricultural use; however, the source of this water was not identified. Under the Settlement Alternative, the source of this water would be NIA priority CAP water. Of this total amount, San Xavier District would receive 23,000 afa and Schuk Toak District would receive 5,200 afa. These are specific amounts established by the SAWRSA.
For purposes of evaluating the environmental consequences in the draft EIS, it is envisioned that water received as a result of this allocation would be used by each district primarily for agriculture and/or recharge. These anticipated uses are based upon plans previously developed regarding use of CAP water allocated in the 1983 process, as well as discussions with Reclamation staff currently working with TON on water resource projects. For the San Xavier District, it is anticipated approximately 15,000 afa would be used for agricultural purposes. An estimated 3,000 acres could be farmed with that amount of water. It is anticipated the remaining 8,000 afa would be recharged (directly and/or indirectly) within the district. It is anticipated the Schuk Toak District would use

[18] GRIC's total water budget for its water rights settlement includes the following sources: CAP water, obtained as an allocation as well as from other entities through water rights settlements; Globe Equity 59 Decree water from the Gila River; groundwater; Salt River Project (SRP) water and reclaimed water.

its 5,200 afa for agriculture, which could serve an estimated 1,000 acres. If this district chose to recharge the water, less acreage would be disturbed. These potential uses are described in more detail in Appendix L.

II.D.1.d. Other Uses

Under the Settlement Alternative, 69,800 afa of NIA priority water would be reserved for federal purposes. Unless and until specific amounts are allocated and contracted to facilitate the settlement of future water rights claims[19], this water would be made available as excess water. As explained above, excess water is available on an annual basis through two-party contracts with CAWCD. For purposes of the EIS, it is assumed this water would remain in the excess water pool for the remainder of the 50-year study period, continuing to be used primarily by the NIA sector and for groundwater recharge[20].

II.D.2. Non-Settlement Alternatives

Traditional Reclamation shortage schedules would be used for Non-Settlement Alternatives 1 through 3 and the No Action Alternative. In addition, water assigned, transferred, or relinquished to another use sector would retain its original priority, and be subject to the same risk of shortage as the original user.

II.D.2.a. Non-Settlement Alternative 1

Under Non-Settlement Alternative 1, blocks of CAP water would be allocated as follows:

- A total of 65,647 afa of currently uncontracted M&I priority water would be allocated and contracted to M&I entities consistent with State recommendations referenced above under the Settlement Alternative.

- A total of 17,000 afa of M&I priority water currently contracted to ASARCO would be voluntarily transferred to GRIC pursuant to an agreement between the two parties, and would be put under contract to GRIC.

- A total of 18,600 afa of NIA priority water, relinquished by RWCD for the Secretary to reserve for use by GRIC (pursuant to the Agreement among the United States, GRIC and RWCD of 1992), would be put under contract to GRIC.

19 When allocated and contracted, this water could be delivered via the CAP system, diverted from the Colorado River mainstem (as proposed for the Navajo / Hopi allocation under Non-Settlement Alternatives 2 and 3), or exchanged with a CAP partner (as proposed for the SC Apache under Non-Settlement Alternatives 2 and 3).
20 It should be noted the water could also be used on an annual basis for other purposes, including environmental enhancement. Any such use is expected to occur within the State of Arizona. The draft EIS, however, does not speculate regarding these uses.

Figure II-2 summarizes the distribution of CAP water that would occur among the three sectors under this alternative.

II.D.2.a.(1) M&I Sector

As with the Settlement Alternative, under Non-Settlement Alternative 1 the 65,647 afa of currently uncontracted M&I priority water would be allocated to M&I entities consistent with the recommendations received from the State in its correspondence of December 1999 and January 2000. Water service subcontracts would be executed with those entities. Table II-1, at the end of this chapter, contains a summary of the allocations to the M&I entities as proposed under this alternative.

II.D.2.a.(2) NIA Sector

Under Non-Settlement Alternative 1, no change from the status quo would occur. The NIA districts would continue to obtain excess CAP water through two-party letter agreements and excess water contracts, and the status of their CAP water service subcontracts would remain unresolved[21].

II.D.2.a.(3) Indian Sector

Under Non-Settlement Alternative 1, the GRIC would receive an additional CAP water allocation of 35,600 afa, resulting from bilateral settlements with ASARCO (17,000 afa of M&I priority water) and RWCD (18,600 afa of NIA priority water). This amount would be contracted to GRIC. It is assumed the entire 35,600 afa allocation would be used by GRIC for agricultural purposes in implementing the PMIP. It is estimated approximately 8,000 acres could be farmed with this allocation.

Out of an available 19,318 afa of CAP water relinquished by HVID, 17,800 afa would be designated for use in a final water rights settlement agreement with GRIC. The remaining 1,518 afa would be designated for use in a final settlement regarding Salt and Verde River watershed Indian water rights claims. Table II-2, at the end of this chapter, contains a summary of the allocation to the GRIC as proposed under this alternative.

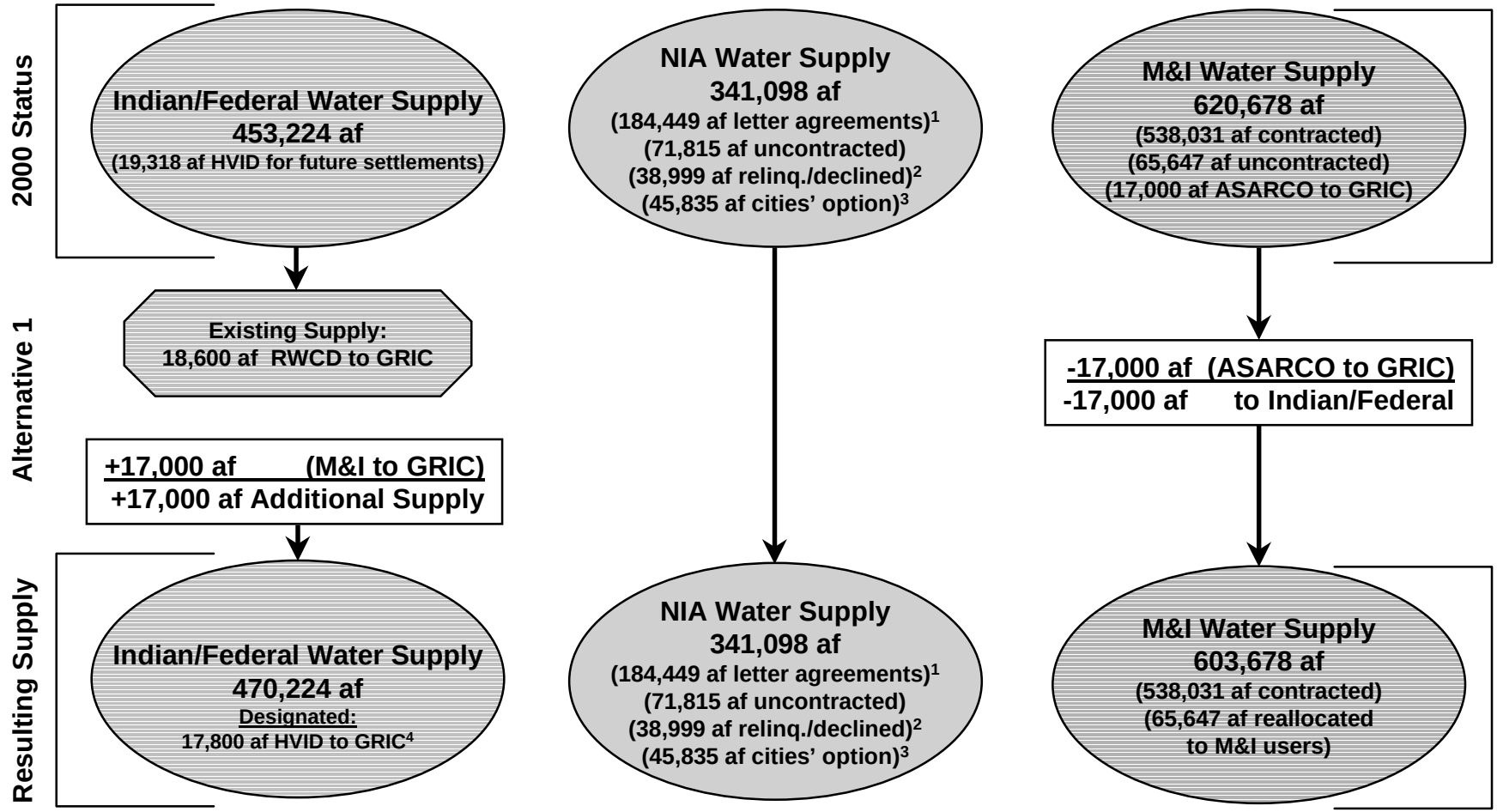
[21]As noted in Chapter I, the United States is challenging provisions of these agreements for consistency with Reclamation law in ongoing litigation regarding operation of the CAP. However, these issues have been addressed in the settlement stipulation, discussed in Chapter I.E.1. (see also Appendix O). For purposes of the EIS, it is assumed under Non-Settlement Alternatives 1 and 2, that current CAP operations allowing delivery of these water supplies would continue pending final resolution of the litigation.

Prepared for:

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

June 2000

FIGURE II-2
CAP Allocation Draft EIS
NON-SETTLEMENT ALTERNATIVE 1
Distribution of CAP Water Supplies



[1]Six irrigation districts (Central Arizona IDD, Maricopa-Stanfield IDD, Queen Creek ID, Chandler Heights Citrus ID, San Tan ID, and Tonopah ID) are considered to have relinquished their allotments subject to SOI consent.

[2]NMIDD is considered to have relinquished its 1983 allocation. FICO, MVWCD, and ASLD are considered to have declined their rights to the 1992 NIA reallocation.

[3]Pursuant to 1993 HIDD Agreement.

[4]Consistent with FMIC Water Rights Settlement Act provisions.

II.D.2.b. Non-Settlement Alternative 2

Under Non-Settlement Alternative 2, blocks of CAP water would be allocated as follows:

- A total of 65,647 afa of currently uncontracted M&I priority water would be allocated and contracted to Indian Tribes for use in facilitating settlement of Indian water rights.

- A total of 17,000 afa of M&I priority water currently contracted to ASARCO would be voluntarily transferred to GRIC pursuant to an agreement between the two parties, and would be put under contract to GRIC.

- A total of 18,600 afa of NIA priority water relinquished by RWCD for the Secretary to reserve for contracting to GRIC, pursuant to the Agreement among the United States, GRIC and RWCD of 1992, would be put under contract to GRIC.

- A total of 38,999 afa of currently relinquished and/or declined NIA priority water would be reallocated to Indian Tribes for use in facilitating settlement of Indian water rights claims.

Figure II-3 summarizes the distribution of CAP water that would occur among the three water sectors under this alternative.

II.D.2.b.(1) M&I Sector

Under Non-Settlement Alternative 2, a total of 82,647 afa of M&I priority water (65,647 afa currently uncontracted plus 17,000 afa currently contracted to ASARCO) would be allocated/reallocated to facilitate resolution of Indian water rights claims, as indicated above.

II.D.2.b.(2) NIA Sector

Under Non-Settlement Alternative 2, an estimated 38,999 afa would be reallocated for use in facilitating resolution of Indian water rights claims. This water consists of water originally allocated by the 1983 ROD and relinquished by NMIDD in its bankruptcy proceedings, and water declined by the Farmers Investment Company (FICO), McMullen Valley Water Conservation District (MVWCD) and the Arizona State Land Department (ASLD) following the initiation of the 1992 NIA reallocation process[22].

It is anticipated that, while the status of the other NIA districts' subcontracts would remain unresolved, the districts would continue receiving CAP water as they do currently.

II.D.2.b.(3) Indian Sector

Under Non-Settlement Alternative 2, an additional 75,099 afa of CAP water would be allocated and contracted to GRIC. This additional amount would consist of 38,099 afa of NIA priority water (18,600 afa previously allocated and contracted to RWCD from a pre-existing arrangement, plus

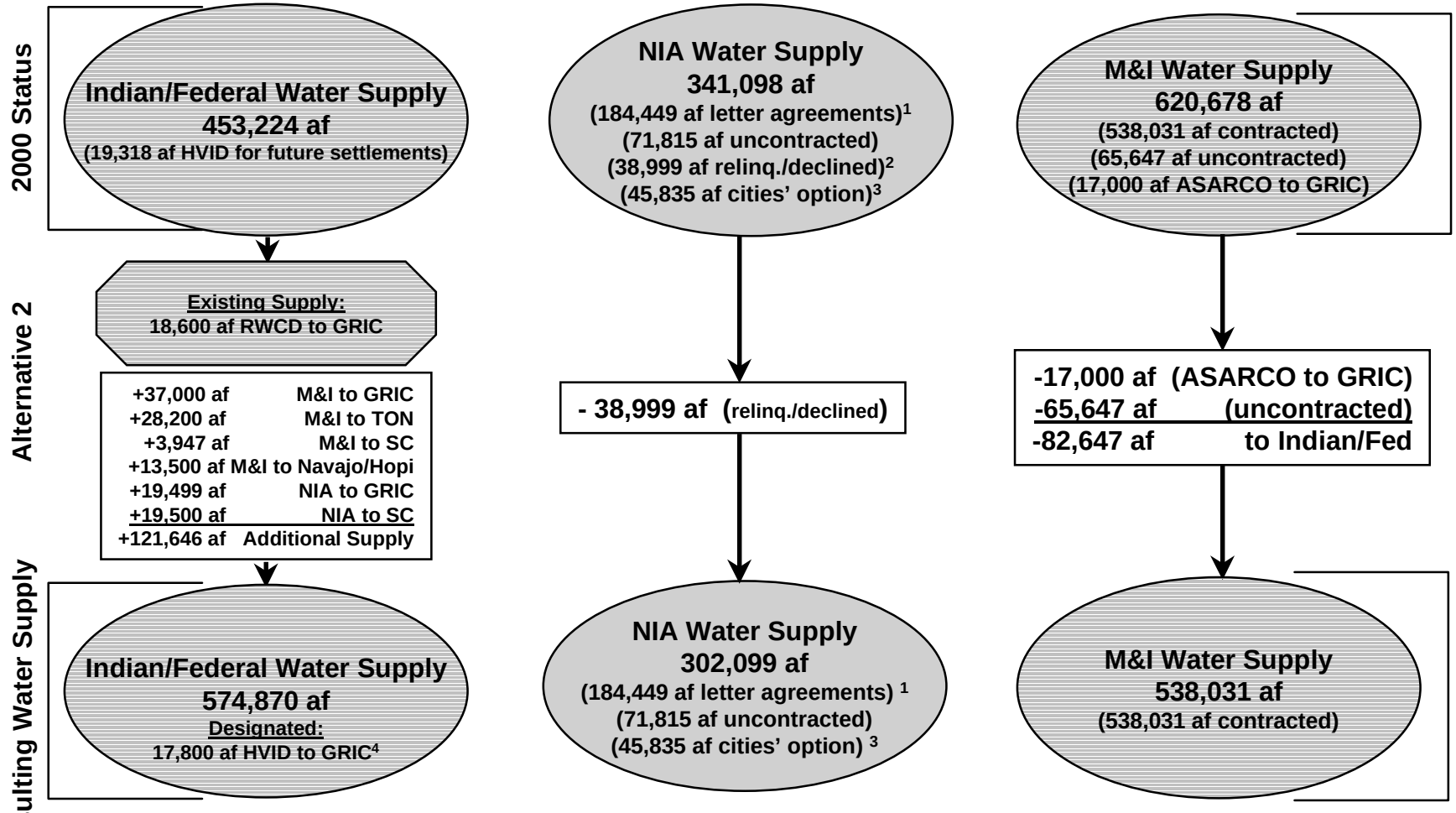
[22]See Chapter I.

Prepared for:

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

June 2000

FIGURE II-3
CAP Allocation Draft EIS
NON-SETTLEMENT ALTERNATIVE 2
Distribution of CAP Water Supplies



[1]Six irrigation districts (CAIDD, MSIDD, Queen Creek ID, Chandler Heights Citrus ID, San Tan ID, and Tonopah ID) are considered to have relinquished their allotments subject to SOI consent.

[2]NMIDD is considered to have relinquished its 1983 allocation. FICO, MVWCD, and ASLD are considered to have declined their rights to the 1992 NIA reallocation.

[3]Pursuant to 1993 HIDD Agreement.

[4]Consistent with FMIC Water Rights Settlement Act provisions.

19,499 afa of relinquished and/or declined NIA), and 37,000 afa of M&I priority water (see Figure II-3). Similar to Non-Settlement Alternative 1, it is assumed that all the additional CAP water would be used by GRIC for agricultural purposes in implementing the PMIP. It is estimated approximately 16,700 acres could be farmed with this 75,099 afa.

Also under this alternative, the source of the 28,200 afa of water authorized to be provided to TON under SAWRSA (23,000 afa to San Xavier District and 5,200 afa to Schuk Toak District) would be previously uncontracted M&I priority CAP water.

Two additional Tribes would receive CAP water allocations under Non-Settlement Alternative 2. Under this alternative, the Navajo/Hopi would together receive a total of 13,500 afa of M&I priority water. For purposes of evaluating the environmental impacts in this draft EIS, it is anticipated the Navajo/Hopi would utilize this water for M&I purposes, based upon information provided by the Navajo/Hopi and discussion with Reclamation staff currently working with these communities on water resource projects. The water would be delivered via pipeline for use in the Lower Colorado River basin. These potential uses are described in more detail in Appendix L.

The SC Apache Tribe would receive a total of 23,447 afa (3,947 afa of M&I priority, and 19,500 afa of NIA priority water). It is anticipated that in order to use the CAP water, the SC Apache Tribe would need to enter into an exchange agreement with a downstream party that has both rights to use Gila River water and access to CAP water. Water would most likely be used for agriculture (up to 4,700 acres could be farmed), although the Tribe could decide to leave some water in San Carlos Reservoir to maintain a minimum pool in the reservoir. These plans are based upon discussion with Reclamation staff currently working with the SC Apache Tribe on developing water resource projects. These potential uses are described in more detail in Appendix L.

As under Non-Settlement Alternative 1, 17,800 afa of the 19,318 afa of HVID water (reserved for use in settling Indian water rights claims to the Salt and Verde River watershed pursuant to the FMIC Water Rights Settlement Act of 1990), would be designated for GRIC. This water is considered to be Indian priority. Table II-2, at the end of this chapter, contains a summary of the allocations to the GRIC, TON, SC Apache Tribe, and Navajo/Hopi proposed under this alternative.

II.D.2.c. Non-Settlement Alternative 3

Under Non-Settlement Alternative 3, blocks of CAP water would be allocated as follows:

- A total of 65,647 afa of currently uncontracted M&I priority water would be reallocated to Indian Tribes for use in facilitating settlement of Indian water rights claims.

- A total of 17,000 afa of M&I priority water currently allocated to ASARCO would be voluntarily transferred to GRIC pursuant to an agreement between the two parties, and would be put under contract to GRIC.

- A total of 18,600 afa of NIA priority water, relinquished by RWCD for the Secretary to reserve for use by GRIC, (pursuant to the Agreement among the United States, GRIC and

RWCD of 1992), would be put under contract to GRIC.

- A total of 38,999 afa of currently relinquished and/or declined NIA priority water would be reallocated to Indian Tribes for use in facilitating settlement of Indian water rights claims.

- A total of 184,449 afa of NIA priority water which is considered to have reverted to the Secretary would be allocated and contracted to several Indian users, or would be reserved for use in facilitating settlements of Indian water rights claims[23].

- NIA entities would be offered an estimated 71,815 afa consistent with the 1992 NIA reallocation process. For purposes of evaluating the environmental consequences of this alternative, it is anticipated one of two outcomes would result:

  - Option 3A - Under this option, it is anticipated the six affected districts[24] would satisfy the eligibility requirements for receiving the reallocated 1992 NIA priority water, and water service subcontracts would be executed for the amounts identified through that process.

  - Option 3B - Under this option, the six affected districts would not be able to meet the eligibility requirements for receiving, or would decline, the reallocated 1992 NIA priority water. The water would revert to the United States, consistent with the 1992 NIA reallocation process described in 57 FR 4470. The United States would make this estimated 71,815 afa of NIA priority water available for M&I purposes. It is assumed this water would be distributed pro rata among the M&I entities based upon the recommendations received from the State as described earlier. These contracts would be offered and executed.

Figure II-4 summarizes the distribution of CAP water that would occur among the three sectors under this alternative.

II.D.2.c.(1) M&I Sector

Under the Non-Settlement Alternative 3A option, the M&I sector would be affected in the same manner as under Non-Settlement Alternative 2. Specifically, the 538,031 afa of M&I priority water currently under contract would continue to be used by M&I entities within the CAP water service area. Under the Non-Settlement Alternative 3B option, an estimated additional 71,815 afa of NIA priority water would be allocated and contracted to M&I entities based upon the State's recommendations. Table II-1, at the end of this chapter, contains a summary of the allocations to the M&I entities, proposed under this alternative.

[23] See Table 2 in Appendix F for the derivation of the NIA-priority water amounts.
[24] MSIDD, CAIDD, NMIDD, CHCID, SCIDD, RID.

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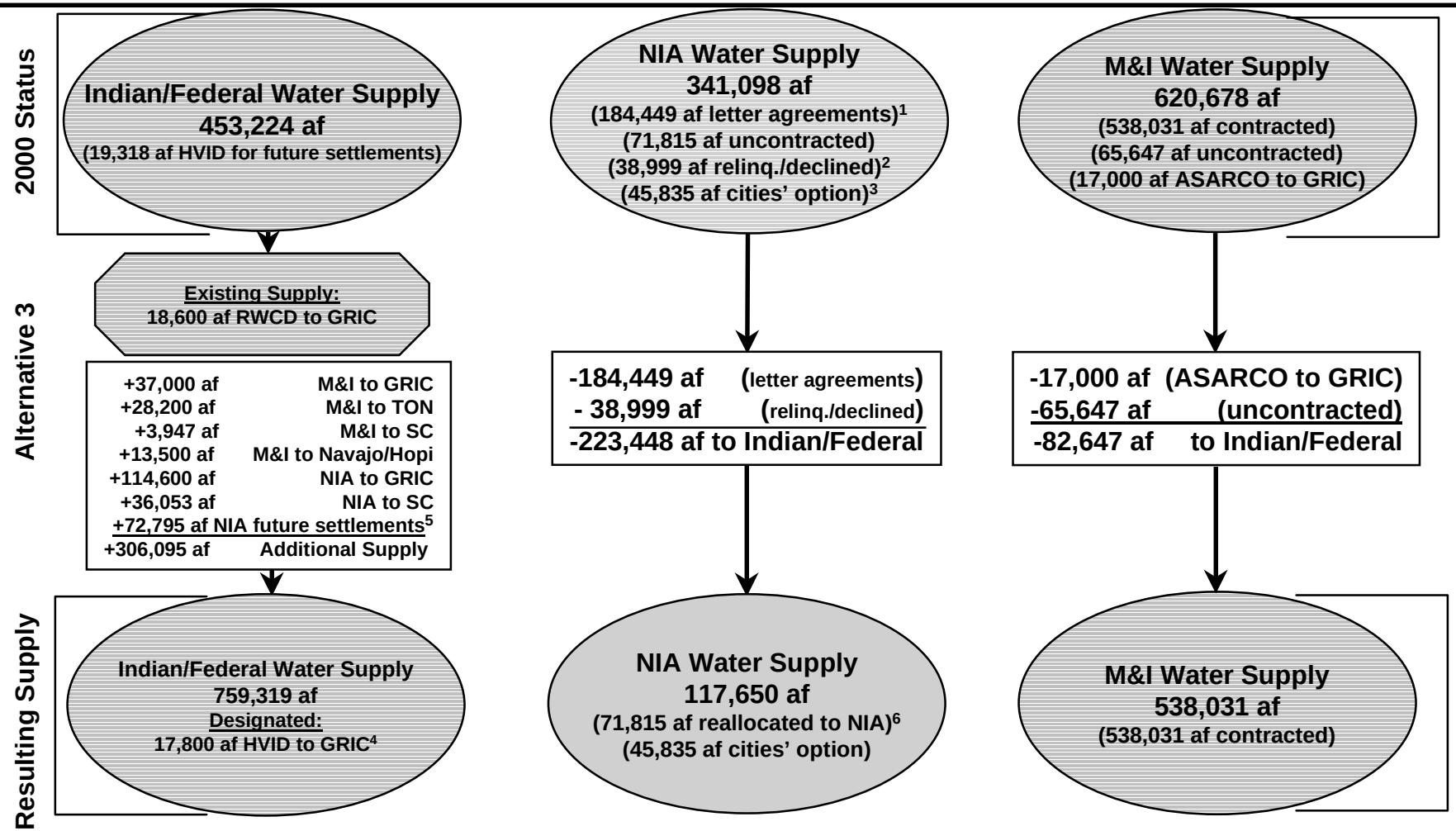
June 2000

FIGURE II-4
CAP Allocation Draft EIS
NON-SETTLEMENT ALTERNATIVE 3
Distribution of CAP Water Supplies



[1]Six irrigation districts (CAIDD, MSIDD, Queen Creek ID, Chandler Heights Citrus ID, San Tan ID, and Tonopah ID) are considered to have relinquished their allotments subject to SOI consent.
[2]NMIDD is considered to have relinquished its 1983 allocation. FICO, MVWCD, and ASLD are considered to have declined their rights to the 1992 NIA reallocation.
[3]Pursuant to 1993 HIDD Agreement.
[4]Consistent with FMIC Water Rights Settlement Act provisions.
[5]Includes possible environmental uses.
[6]Two outcomes of reallocation will be evaluated in the EIS: reallocation to NIA use, and reallocation to M&I uses.

II.D.2.c.(2) NIA Sector

Under Non-Settlement Alternative 3, an estimated 223,448 afa of NIA priority CAP water would be reallocated for use in facilitating resolution of Indian water rights claims.

Under Non-Settlement Alternative 3A, the remaining estimated 71,815 afa would be put under subcontract to and used by six NIA districts. Table II-3, at the end of this chapter, contains a summary of the allocations to the NIA users, proposed under this alternative. Additionally, substantial amounts of NIA priority water could be available for use by the NIA entities from the excess water pool.

Under Non-Settlement Alternative 3B, it is assumed the six affected NIA districts would either decline and/or be unable to enter into subcontracts for the estimated 71,815 afa. As described earlier, substantial amounts of NIA priority water could be available for use by the NIA entities from the excess water pool.

II.D.2.c.(3) Indian Sector

Under Non-Settlement Alternative 3, GRIC would receive an additional CAP water allocation of 170,200 afa (18,600 afa +114,600 afa of NIA priority water, and 37,000 afa of M&I priority water). Similar to the other Non-Settlement Alternatives, it is assumed this additional 170,200 afa would be used by GRIC for agricultural purposes in implementing the PMIP. It is estimated approximately 38,000 acres could be farmed with this allocation.

As in the Non-Settlement Alternative 2, under Non-Settlement Alternative 3, the source of the 28,200 afa of water authorized to be provided to TON under SAWRSA (23,000 afa to San Xavier District and 5,200 afa to Schuk Toak District) would be identified as unallocated M&I priority CAP water.

Similar to Non-Settlement Alternative 2, the Navajo/Hopi together would receive a total of 13,500 afa of M&I priority water. The SC Apache Tribe would receive a total of 40,000 afa (3,947 afa of M&I priority water, and 36,053 afa of NIA priority water). It is anticipated the uses by each Tribe would be as noted under Non-Settlement Alternative 2. For the SC Apache Tribe, if the entire amount was used for agriculture, up to 8,000 acres could be farmed.

As under the other Non-Settlement Alternatives, 17,800 afa of the 19,318 afa of HVID water reserved for use in settling Indian water rights claims to the Salt and Verde River watershed pursuant to the FMIC Water Rights Settlement Act of 1990, would be designated for GRIC. This water is considered to be Indian priority.

An additional estimated 74,313 afa would be reserved for future use by the United States (of which 1,518 afa could only be used for final settlement of Indian water rights claims along the Salt and Verde River watershed). Although it is anticipated this reserve would be used primarily for facilitating Indian water rights claims[25], there would also be opportunities for using some of that

[25] When allocated and contracted, this water could be delivered via the CAP system, diverted from the Colorado River mainstem (as proposed for the Navajo/Hopi allocation under Non-Settlement Alternatives 2 and 3), or exchanged with a CAP partner (as proposed

water for environmental purposes. Water for environmental purposes could be allocated and contracted or provided on an annual basis. In either case, such use is expected to occur within the State of Arizona. For analysis purposes, however, the draft EIS assumes this water would be made available as excess water for the remainder of the 50-year study period, continuing to be used primarily by the NIA sector and for groundwater recharge. Table II-2, at the end of this chapter, contains a summary of the Indian allocations proposed under this alternative.

II.D.3. No Action Alternative

The No Action Alternative provides a baseline for comparing the impacts of the alternatives discussed in the draft EIS. For purposes of this document, "no action" is defined as no additional federal action being taken regarding allocation or contracting of CAP water. No blocks of water would move from one sector to another. No CAP water transfers would be approved by Reclamation. Even actions that have already been agreed upon, such as the transfer to GRIC of 17,000 afa of water previously allocated to ASARCO, would not occur, since Secretarial approval or federal action would be required. Figure II-5 summarizes the distribution of CAP water that would occur among the three sectors under this alternative.

It is assumed under the No Action Alternative that the status quo would continue for the 50-year study period[26]. There would be no additional water allocated or reallocated within the M&I sector[27]. The NIA districts would continue to use CAP water as they do currently under two-party excess water agreements, and the status of their CAP water service subcontracts would remain unresolved. No additional water would be provided to facilitate settlement of Indian water rights claims, and the uncertainty of the status of water rights would remain. Current water rights litigation would continue, as well as litigation over repayment of the CAP. No particular outcome of these lawsuits is assumed under the No Action Alternative.

An optional way to define the No Action Alternative would have been to identify reasonably foreseeable actions that might be expected to occur in the absence of the Settlement Alternative. The action alternatives considered in this EIS, however, already comprise various alternative futures that could result in the absence of a settlement. Moreover, in the absence of any reallocation at all, it is difficult to envision reasonably foreseeable actions that would be likely to occur, because so much would depend upon the outcome of litigation between CAWCD and the United States. In light of these considerations, Reclamation determined it was most reasonable to define the No Action Alternative as truly one in which no additional federal action occurs, without speculating on future possibilities.

II.D.3.a. M&I Sector

Under the No Action Alternative, the M&I sector would be affected in a similar manner as under Non-Settlement Alternatives 2 and 3A. Specifically, the 538,031 afa of M&I priority water currently

for the SC Apache under Non-Settlement Alternatives 2 and 3).

[26] Current CAP allocations for each entity, if any are identified in Appendix L.

[27] Transfer of M&I allocations and/or amendments to the existing M&I subcontracts, already recommended by ADWR and being processed by Reclamation, would be completed.

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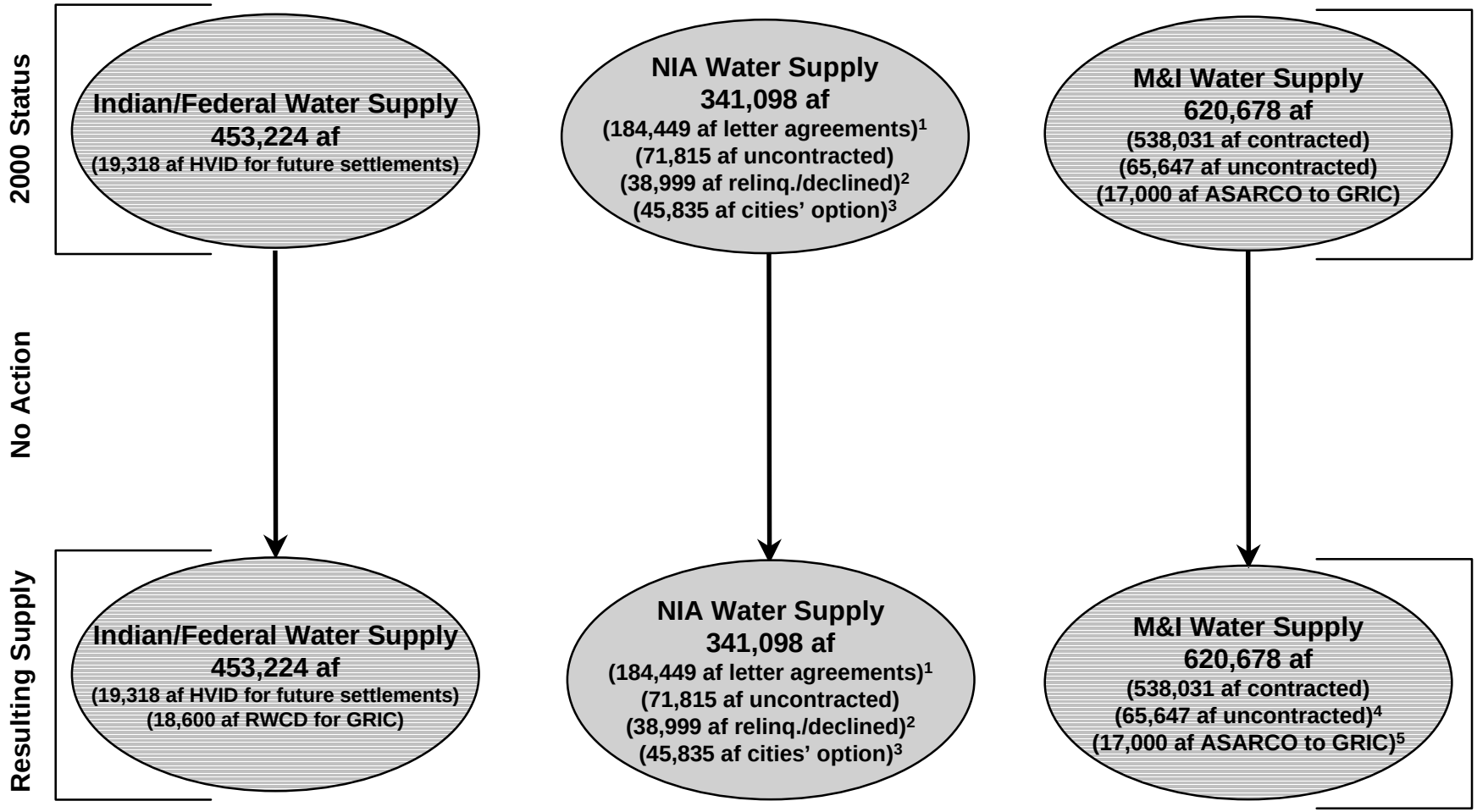
June 2000

FIGURE II-5
CAP Allocation Draft EIS
NO ACTION ALTERNATIVE
Distribution of CAP Water Supplies



[1]Six irrigation districts (CAIDD, MSIDD, Queen Creek ID, Chandler Heights Citrus ID, San Tan ID, and Tonopah ID) are considered to have relinquished their allotments subject to SOI consent.

[2]NMIDD is considered to have relinquished its 1983 allocation. FICO, MVWCD, and ASLD are considered to have declined their rights to the 1992 NIA reallocation.

[3]Pursuant to 1993 HIDD Agreement.

[4]Uncontracted and relinquished water is delivered under two-party "excess water" agreements. The U.S. is challenging these agreements.

[5]Agreement to assign 17,000 af from ASARCO to GRIC subject to SOI consent.

under contract by M&I entities would continue to be used by those entities within the CAP water service area.

Pursuant to an "Agreement among the United States, the CAWCD, the Hohokam Irrigation and Drainage District (HIDD) and the Arizona Cities of Chandler, Mesa, Scottsdale, and Phoenix of 1993 (HIDD Agreement)," HIDD relinquished its CAP allocation in exchange for debt relief. The four Arizona cities contributed money in exchange for HIDD's CAP allocation and an option of contracting up to five percent of the NIA pool (provided the five percent is available as uncontracted water). This water would continue to be available to contract to the four cities. None of the four cities has exercised its option as of this writing; however, exercising this option has already been approved by Reclamation (including environmental clearances) and is considered to require no additional Federal action other than administrative processing. This water would retain its NIA priority. This also considered to be the case under all the action alternatives.

II.D.3.b. NIA Sector

As mentioned above, under the No Action Alternative, NIA districts would continue to use CAP water as they currently do under two-party excess water agreements. It is anticipated there would be substantial amounts within the excess water pool available for use by the NIA entities.

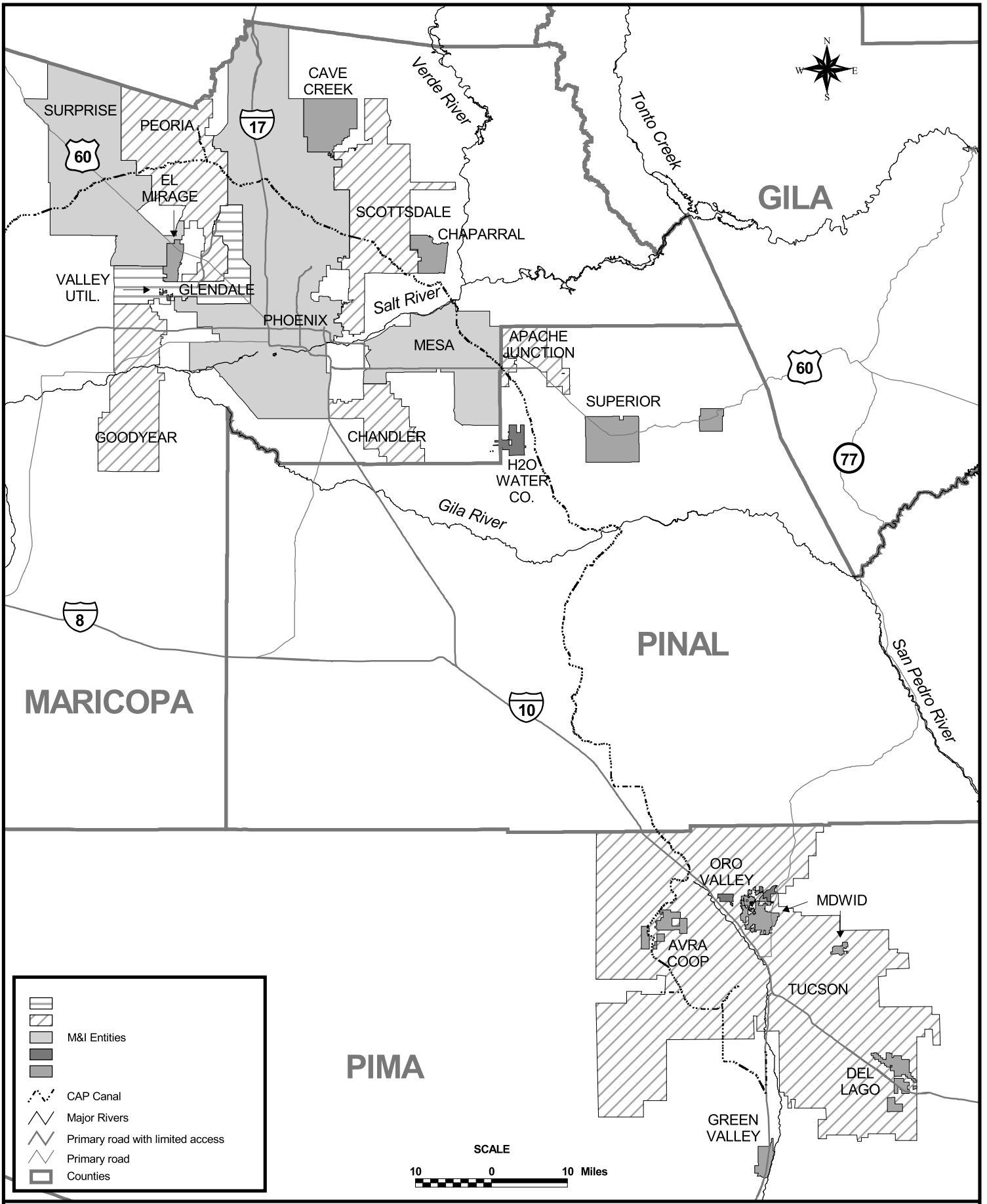
II.D.3.c. Indian Sector

Under the No Action Alternative, it is assumed no Indian water rights settlements are consummated within the 50-year study period. Even proposed transfers that have already been agreed to, such as the 17,000 afa transfer of ASARCO M&I priority water and 18,600 afa allocation of RWCD water to GRIC, would not occur. It is assumed the various parties would continue to pursue litigation; however, no particular outcome is anticipated to occur.

Table II-4 summarizes the CAP allocations made under each of the proposed alternatives. Figures II-6 through II-8 show the location of the entities that could receive CAP water under the action alternatives. Table II-4 also identifies various components that are addressed under each alternative.

II.E. EFFECTS OF ALTERNATIVES ON SELECTED RESOURCES

Table II-5 summarizes the effects of the alternatives on selected resources.



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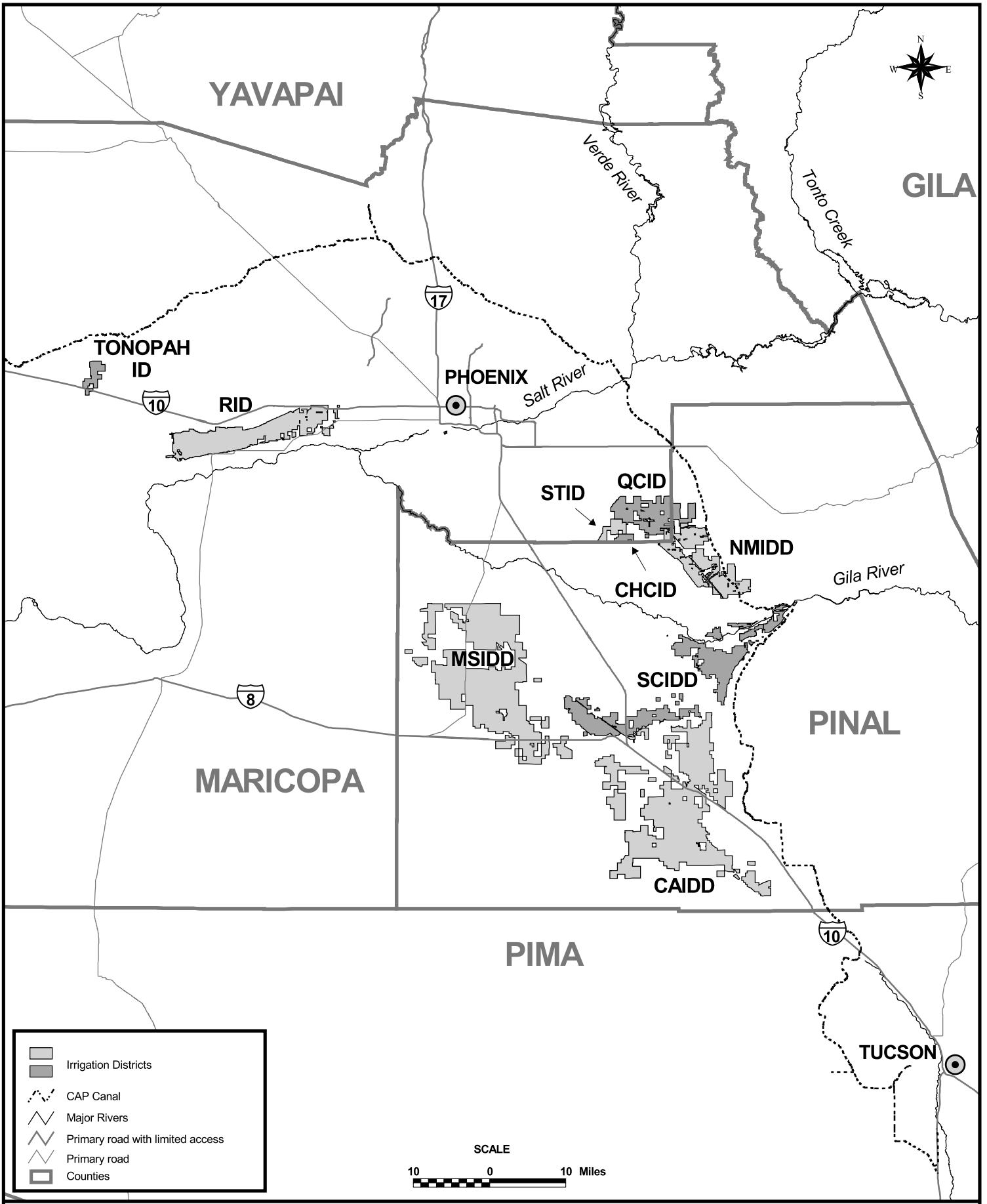
CAP Allocation EIS

M&I Sector Location Map

Figure

II-6



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CAP Allocation EIS

Irrigation District Sector Location Map

Figure

II-7

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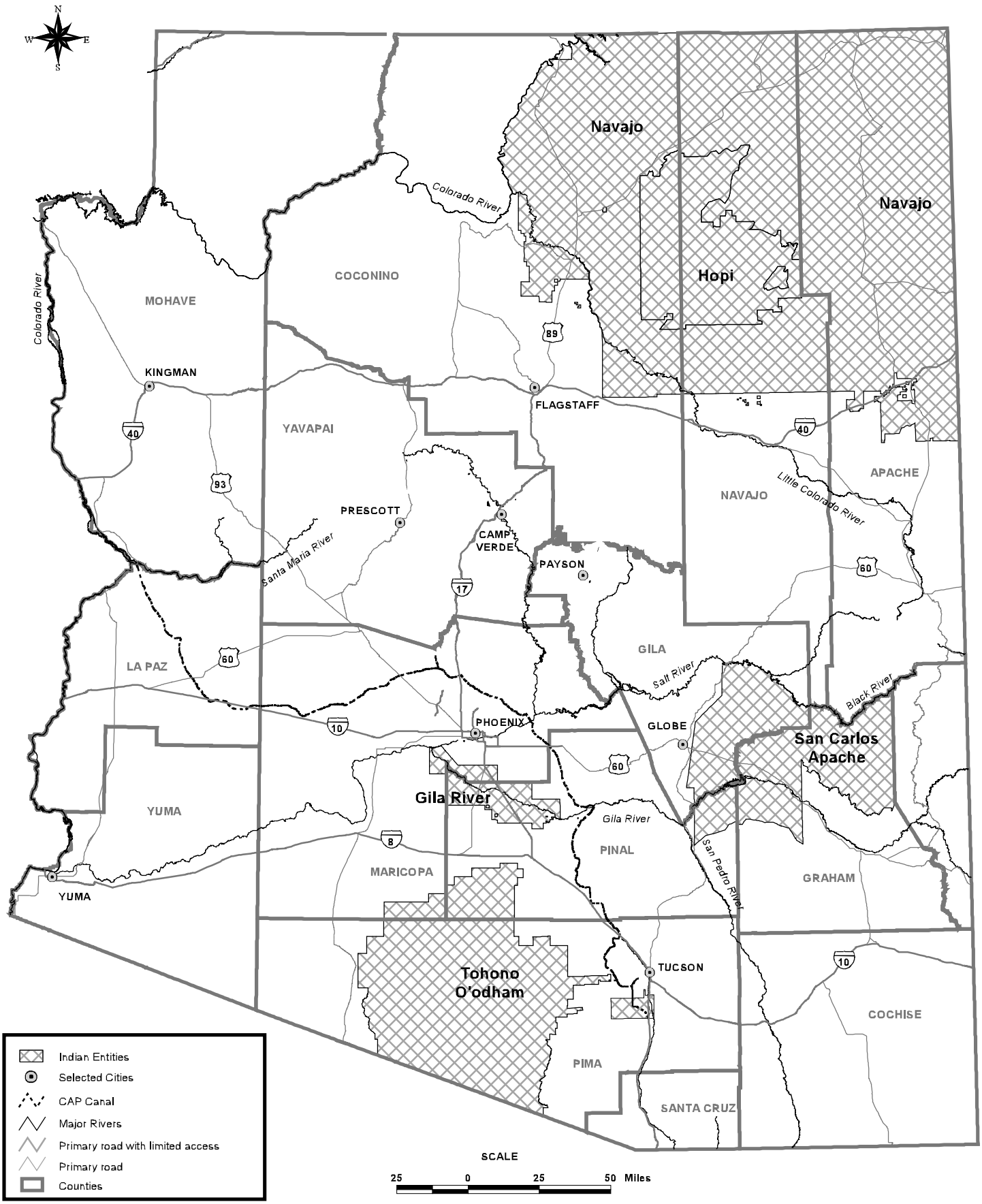

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CAP Allocation EIS

Indian Sector Location Map

Figure

II-8

Table 2-1
CAP Allocation Draft EIS
Summary Table of New Allocations – M&I

	Allocation Under Alternative (acre-feet per year)					
Entity	**Settlement Alternative**	**No Action**	**Non-Settlement Alternative 1**	**Non-Settlement Alternative 2**	**Non-Settlement Alternative 3A[d]**	**Non-Settlement Alternative 3B[d]**
Arizona Water Company -Apache Junction[a]	285	0	285	0	0	312[b]
AVRA Water Cooperative	808	0	808	0	0	884[b]
Cave Creek Water Company	806	0	806	0	0	882[b]
City of Chandler	4,986	0	4,986	0	0	5,454[b]
Chaparral City Water Company	1,931	0	1,931	0	0	2,112[b]
Community Water Company of Green Valley	1,521	0	1,521	0	0	1,664[b]
City of El Mirage	508	0	508	0	0	556[b]
City of Glendale	3,053	0	3,053	0	0	3,340[b]
City of Goodyear	7,211	0	7,211	0	0	7,889[b]
H20 Water Company	147	0	147	0	0	161[b]
City of Mesa	7,115	0	7,115	0	0	7,784[b]
Metropolitan Domestic Water Improvement District (MDWID)	4,602	0	4,602	0	0	5,034[b]
Town of Oro Valley	3,557	0	3,557	0	0	3,891[b]
City of Peoria	5,527	0	5,527	0	0	6,046[b]
City of Phoenix	8,206	0	8,206	0	0	8,977[b]
City of Scottsdale	2,981	0	2,981	0	0	3,261[b]
Town of Superior / Arizona Water Company-Superior	285	0	285	0	0	312[b]
City of Surprise	2,876	0	2,876	0	0	3,146[b]
City of Tucson	8,206	0	8,206	0	0	8,977[b]
Vail Water Company	1,071	0	1,071	0	0	1,172[b]
Valley Utilities Water Company	250	0	250	0	0	273[b]
M&I and/or NIA Reserved for Future Use[c]	95,263	0	0	0	0	0
Total	65,647	0	65,647	0	0	71,815

Notes:
(a) If the allocation is not accepted, then the 285 acre-feet from Town of Superior would be recommended for the Arizona Water Company for use in its Superior or Apache Junction system.
(b) NIA-priority water.
(c) In a process to be developed later and not included in total.
(d) Under Non-Settlement Alternative 3, allocations would be offered on a percentage basis and are shown here as fixed volumes for ease in describing and comparing all the alternatives.

Table 2-2
CAP Allocation Draft EIS
Summary Table of New Allocations – NIA

	Allocation Under Alternative (acre-feet per year)					
Entity	**Settlement Alternative**	**No Action**	**Non-Settlement Alternative 1**	**Non-Settlement Alternative 2**	**Non-Settlement Alternative 3A[a]**	**Non-Settlement Alternative 3B[a]**
CAIDD	0	0	0	0	27,342	0
Chandler Heights Citrus ID	0	0	0	0	173	0
Maricopa-Stanfield IDD	0	0	0	0	26,497	0
New Magma IDD	0	0	0	0	3,396	0
Queen Creek ID	0	0	0	0	0	0
Roosevelt ID	0	0	0	0	6,122	0
San Carlos IDD	0	0	0	0	8,284	0
San Tan ID	0	0	0	0	0	0
Tonopah ID	0	0	0	0	0	0
M&I and/or NIA Reserved for Future Use[b]	95,263	0	0	0	0	0
Total	0	0	0	0	71,815	0

Notes:
(a) Under Non-Settlement Alternative 3, allocations would be offered on a percentage basis and are shown here as fixed volumes for ease in describing and comparing all alternatives.
(b) In a process to be developed later and not included in total.

Table 2-3
CAP Allocation Draft EIS
Summary Table of New CAP Allocations – Indian

	Allocation Under Alternative (acre-feet per year)					
Entity	**Settlement Alternative**	**No Action**	**Non-Settlement Alternative 1**	**Non-Settlement Alternative 2**	**Non-Settlement Alternative 3A**	**Non-Settlement Alternative 3B**
Gila River Indian Community						
Allocated	155,400	0	35,600	75,099	170,200	170,200
Designated	0	0	17,800	17,800	17,800	17,800
GRIC Total	155,400	0	53,400	92,899	188,000	188,000
Tohono O'odham Nation						
San Xavier District	23,000	0	0	23,000	23,000	23,000
Schuk Toak District	5,200	0	0	5,200	5,200	5,200
TON Total	28,200[(a)]	0	0	28,200[(a)]	28,200[(a)]	28,200[(a)]
SCAT	0	0	0	23,447	40,000	40,000
Navajo/Hopi	0	0	0	13,500	13,500	13,500
Reserved for Future Settlements	33,400[(b)]	0	0	0	34,877[(b)]	34,877[(b)]
Totals	217,000	0	53,400	158,046	304,577	304,577

Notes:

(a) Under the Settlement Alternative and Non-Settlement Alternatives 2 and 3, the 28,200 AF annually of additional water to the TON per SAWRSA are identified as a CAP allocation.

(b) Reserved for Federal use, primarily to facilitate future Indian water rights settlements. Water for environmental purposes within the State of Arizona could be available on an annual basis.

Table 2-4
CAP Allocation Draft EIS
Summary of Alternatives

		Settlement Alternative (SETTLEMENT)	Non-Settlement Alternative 1	Non-Settlement Alternative 2	Non-Settlement Alternative 3	No Action
			---------- (NO SETTLEMENT) ----------			
Blocks of Water	***Users***					
M&I 65k Uncontracted	M&I	X	X			-
	Federal-Indians			X	X	
NIA 39k Relinq. or Declined	NIA	[1]	-			-
	Federal-Indians	[1]		X	X	
NIA 184k Letter Agreement	NIA	[1]	-	-		-
	Federal-Indians	[1]			X	
NIA 72k Uncontracted	NIA	[1]	-	-	X[2]	-
	M&I	[1]			X[3]	
Other Components in Alternatives [4]						
Water for Environmental Purposes[5]		X[6]			X[7]	
Water to Indian Users		X	X	X	X	
Leases of Indian Water to M&I Users		X				
Final Indian Water Rights Settlement		X				
Reclamation 9d Debt Relief for NIA		X				
Firming of NIA to M&I Priority for Indian Users		X[8]				
RRA Relief for NIA		X				
Extended Availability of NIA Pool[9]		X				
Resolution of CAP Shortage Administration		X				
Conversion of NIA Percentage to Volume		X[10]				

Notes

(1) Under the Settlement Alternative, all NIA water is voluntarily relinquished. Of the total 297k NIA water, 200k is reserved for federal purposes and 97k is reserved for non-indian use.
(2) One scenario evaluated under Non-Settlement Alternative 3 is contracts offered to, accepted, and used by NIA.
(3) The other scenario evaluated under Non-Settlement Alternative 3 is contracts offered to and declined by NIA, with subsequent offer to and use by M&I.
(4) If marked, alternative includes a degree, but not necessarily all, of the component. For example, 9d debt and RRA relief are under negotiation.
(5) Water for environmental purposes would be for in-state use only and would not be used on the Colorado River mainstem.
(6) Under the Settlement Alternative, water for environmental purposes could be available on an annual basis as excess water.
(7) Non-Settlement Alternative 3 contains a block of water reserved for federal purposes, primarily for Indian uses and possibly environmental purposes.
(8) Firming of some NIA to M&I priority for Indian use.
(9) NIA Pool is excess water, pool extension is based on availability and CAWCD extending the ag pool pricing program.
(10) As a result, a new method for distributing surplus will be established.

Table II-5
CAP Allocation Draft EIS
Effects of Alternatives on Selected Resources

Resource	Change in Conditions from 2001 to 2051	Impacts (Impacts are Changes in the Action Alternatives Relative to the No Action Alternative)				
	No Action Alternative	Settlement Alternative	Non-Settlement Alternative 1	Non-Settlement Alternative 2	Non-Settlement Alternative 3A	Non-Settlement Alternative 3B
Water Resources						
Water Resources M&I Sector	Groundwater levels generally continue to decline, except in areas where CAP water is used for groundwater recharge or is used to offset substantial amounts of existing groundwater pumping	Groundwater levels reflect that additional CAP water is available for direct use, and less CAP water is available for recharge	Groundwater levels reflect that additional CAP water is available for direct use, and less CAP water is available for recharge	Groundwater levels reflect that less CAP water is available for direct use and groundwater recharge	Groundwater levels reflect that less CAP water is available for direct use and groundwater recharge	Groundwater levels reflect that additional CAP water is available for direct use, and less CAP water is available for recharge
	Declines in groundwater levels indicate safe yield would not be achieved by year 2025	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative
	Physical and legal ability to recover groundwater not substantially limited	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative
	Potential for subsidence in most areas with substantial groundwater level declines	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative
	Potential for worsening of water quality as water levels drop in areas with poorer quality groundwater at depth	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative
Water Resources NIA Sector	Higher groundwater levels in QCID, STID, CHCID, RID. No appreciable impacts to groundwater levels in NMIDD and TID. Lower groundwater levels in MSIDD, CAIDD, and SCIDD.	No appreciable impacts to groundwater levels in MSIDD, CAIDD, and RID. Higher groundwater levels in SCIDD. Lower groundwater levels in QCID, NMIDD, STID, CHCID, and TID.	No appreciable impacts to groundwater levels in TID, MSIDD, CAIDD, SCIDD, QCID, STID, CHCID, and RID. Lower groundwater levels in NMIDD.	No appreciable impacts to groundwater levels in TID, MSIDD, CAIDD, SCIDD, and RID. Lower groundwater levels in QCID, NMIDD, STID, and CHCID.	No appreciable impacts to groundwater levels in MSIDD, CAIDD, SCIDD, and RID. Lower groundwater levels in QCID, NMIDD, STID, CHCID, and TID.	No appreciable impacts to groundwater levels in MSIDD, CAIDD, SCIDD, and RID. Lower groundwater levels in QCID, NMIDD, STID, CHCID, and TID.
	Declines in groundwater levels indicate safe yield would not be achieved by year 2025	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative

Table II-5
CAP Allocation Draft EIS
Effects of Alternatives on Selected Resources

Resource	Change in Conditions from 2001 to 2051	Impacts (Impacts are Changes in the Action Alternatives Relative to the No Action Alternative)				
	No Action Alternative	**Settlement Alternative**	**Non-Settlement Alternative 1**	**Non-Settlement Alternative 2**	**Non-Settlement Alternative 3A**	**Non-Settlement Alternative 3B**
	Physical and legal ability to recover groundwater not substantially limited	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative
	Potential for subsidence in most areas with substantial groundwater level declines	Increased subsidence potential in QCID, STID, CHCID, NMIDD, and TID. Reduced subsidence potential in SCIDD.	Increased subsidence potential in NMIDD.	Increased subsidence potential in QCIDD, NMIDD, STID, and CHCID.	Increased subsidence potential in QCID, NMIDD, STID, CHCID, and TID.	Increased subsidence potential in QCID, NMIDD, STID, CHCID, and TID.
	Potential for worsening of water quality as water levels drop in areas with poorer quality groundwater at depth	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative
Water Resources Indian Sector	Groundwater levels on GRIC would generally decline	Additional decline would occur	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	Additional decline would occur	Additional decline would occur
	Groundwater levels on SC Apache Tribe lands would remain stable	Same as No Action Alternative	Same as No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative
	Groundwater levels on TON, San Xavier District would rise	Additional groundwater level rise would occur	No appreciable difference from No Action Alternative	Additional groundwater level rise would occur	Additional groundwater level rise would occur	Additional groundwater level rise would occur
	Groundwater levels on TON, Schuck Toak District would decline	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative
	Decline in groundwater levels for most areas indicate safe yield would not be achieved by year 2025. Safe yield would be achieved by SC Apache Tribe.	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative
	Physical and legal ability to recover groundwater not substantially limited	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative	No appreciable difference from No Action Alternative

Table II-5
CAP Allocation Draft EIS
Effects of Alternatives on Selected Resources

Resource	Change in Conditions from 2001 to 2051	Impacts (Impacts are Changes in the Action Alternatives Relative to the No Action Alternative)				
	No Action Alternative	**Settlement Alternative**	**Non-Settlement Alternative 1**	**Non-Settlement Alternative 2**	**Non-Settlement Alternative 3A**	**Non-Settlement Alternative 3B**
	Potential for subsidence in most areas with substantial groundwater level declines	Increased subsidence potential in GRIC and reduced potential in TON San Xavier	No appreciable difference from No Action Alternative	Reduced potential for subsidence in TON, San Xavier District	Reduced potential for subsidence in TON, San Xavier District	Reduced potential for subsidence in TON, San Xavier District
	Potential for substantial changes in groundwater quality not identified	No appreciable impacts	No appreciable impacts	No appreciable impacts	No appreciable impacts	No appreciable impacts
Socioeconomic						
Socioeconomic M&I Sector – Cost to deliver potable water	Costs of alternative water supplies (CAGRD and reclaimed water) range from $214 to $301 per af. M&I entities would require approximately 95,000 afa, absent additional CAP water. All entities able to meet projected water demands.	Cost to deliver CAP water is $154 per af	Costs of alternative water supplies (CAGRD and reclaimed water) range from $214 to $301 per af. M&I entities would require approximately 30,000 afa, absent additional CAP water.	Costs of alternative water supplies (CAGRD and reclaimed water) range from $214 to $301 per af	Costs of alternative water supplies (CAGRD and reclaimed water) range from $214 to $301 per af	Costs of alternative water supplies (CAGRD and reclaimed water) range from $214 to $301 per af. M&I entities would require approximately 30,000 afa, absent additional CAP water. Additional cost to recharge 6,168 afa of NIA-priority water.

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Effects of Alternatives on Selected Resources

Resource	Change in Conditions from 2001 to 2051	Impacts (Impacts are Changes in the Action Alternatives Relative to the No Action Alternative)				
	No Action Alternative	**Settlement Alternative**	**Non-Settlement Alternative 1**	**Non-Settlement Alternative 2**	**Non-Settlement Alternative 3A**	**Non-Settlement Alternative 3B**
Socioeconomic NIA Sector – Changes in agricultural output in year 2051 as compared to year 2001	-$23.6 M Potential loss of land and/or agricultural lifestyle for those farmers no longer able to maintain their family farms.	-$5.1 M (relative to No Action Alternative) Potential loss of land and/or agricultural lifestyle for those farmers no longer able to maintain their family farms.	+$1.6 M (relative to No Action Alternative) Potential loss of land and/or agricultural lifestyle for those farmers no longer able to maintain their family farms.	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative
Socioeconomic Indian Sector – Changes in agricultural output in year 2051 as compared to year 2001	$85.5 M Improved Tribal economy from revenue generated from agriculture.	+$32.4 M (relative to No Action Alternative) Improved Tribal economy from revenue generated from agriculture and water leases.	+$7.6 M (relative to No Action Alternative) Improved Tribal economy from revenue generated from agriculture.	+$18.3 M (relative to No Action Alternative) Improved Tribal economy from revenue generated from agriculture.	+$50.1 M (relative to No Action Alternative) Improved Tribal economy from revenue generated from agriculture.	+$50.1 M (relative to No Action Alternative) Improved Tribal economy from revenue generated from agriculture.
Land Use						
Land Use M&I Sector	240,000 acres of desert urbanized	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative
	68,150 acres of farmland urbanized	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative
Land Use NIA Sector	40,926 acres fallowed due to economic reasons	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative
	46,900 acres urbanized	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative
Land Use Indian Sector	101,280 acres developed for agriculture	24,800 additional acres developed for agriculture	8,000 additional acres developed for agriculture	25,400 additional acres developed for agriculture	50,000 additional acres developed for agriculture	50,000 additional acres developed for agriculture
Biological Resources						
Biological M&I Sector	Loss of 240,000 acres of desert and wildlife habitat	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative
	Potential loss of suitable habitat for Cactus Ferruginous Pygmy Owl, Pima Pineapple Cactus, Nichol's Turk's Head Cactus, Arizona Agave, and Arizona Cliffrose	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative

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Effects of Alternatives on Selected Resources

Resource	Change in Conditions from 2001 to 2051	Impacts (Impacts are Changes in the Action Alternatives Relative to the No Action Alternative)				
	No Action Alternative	Settlement Alternative	Non-Settlement Alternative 1	Non-Settlement Alternative 2	Non-Settlement Alternative 3A	Non-Settlement Alternative 3B
Biological NIA Sector	Fallowed acres may provide suitable habitat for burrowing owls and other wildlife	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative
Biological Indian Sector	Loss of up to 101,280 acres of wildlife habitat	Loss of 24,800 additional acres of wildlife habitat	Loss of 8,000 additional acres of wildlife habitat	Loss of 25,400 additional acres of wildlife habitat	Loss of 50,000 additional acres of wildlife habitat	Loss of 50,000 additional acres of wildlife habitat
Cultural Resources						
Cultural M&I Sector	Loss of cultural resources resulting from urbanization of 240,000 acres of desert and 68,150 acres of farmland	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative
Cultural NIA Sector	Loss of cultural resources resulting from urbanization of 46,900 acres of farmland	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative	Same as No Action Alternative
Cultural Indian Sector	Loss of cultural resources resulting from agricultural development of 101,280 acres	Loss of cultural resources due to development of 24,800 additional acres	Loss of cultural resources due to development of 8,000 additional acres	Loss of cultural resources due to development of 25,400 additional acres	Loss of cultural resources due to development of 50,000 additional acres	Loss of cultural resources due to development of 50,000 additional acres
Air Quality						
Air Quality Maricopa County	State Implementation Plan (SIP) would control future increases of PM_{10}, CO, and ozone precursor emissions	Same as No Action Alternative for M&I emissions. Similar to No Action Alternative for agricultural emissions	Same as No Action Alternative for M&I emissions. Similar to No Action Alternative for agricultural emissions	Same as No Action Alternative for M&I emissions. Similar to No Action Alternative for agricultural emissions	Same as No Action Alternative for M&I emissions. Similar to No Action Alternative for agricultural emissions	Same as No Action Alternative for M&I emissions. Similar to No Action Alternative for agricultural emissions
Air Quality Pinal County	ROG, NOx, CO, and PM_{10} will steadily increase by 1.5 percent per year through 2020	By 2043, PM_{10} emissions could substantially exceed current thresholds	Same as No Action Alternative	By 2034, PM_{10} emissions could exceed current thresholds	By 2043, PM_{10} emissions could substantially exceed current thresholds	By 2043, PM_{10} emissions could substantially exceed current thresholds
Air Quality Pima County	ROG, NOx, and PM_{10} will increase by 1.5 percent per year through 2020. CO emissions will level off after 2010 per SIP.	Same as No Action Alternative for M&I emissions. Similar to No Action Alternative for agricultural emissions.	Same as No Action Alternative	Same as No Action Alternative for M&I emissions. Similar to No Action Alternative for agricultural emissions.	Same as No Action Alternative for M&I emissions. Similar to No Action Alternative for agricultural emissions.	Same as No Action Alternative for M&I emissions. Similar to No Action Alternative for agricultural emissions.